

CLAIMS

1. A method for reconstituting a non-human mammalian embryo *in vitro*, characterized in that it comprises
5 treating the diploid nucleus of a somatic donor cell prior to its transfer into a recipient cytoplasm, said treatment comprising:
- a) controlled proteolysis of non-histone proteins,
and
 - 10 b) induction of an isomorphic swelling of said nucleus.
2. The method as claimed in claim 1, characterized in that the controlled proteolysis is produced by the
15 action of a serine protease.
3. The method as claimed in claim 2, characterized in that said protease is trypsin or chymotrypsin.
- 20 4. The method as claimed in any one of claims 1 to 3, characterized in that the swelling of the nucleus is induced by treatment with a polyanion chosen from heparin, dextran sulfate and polyaspartic acids with a molecular weight of greater than 20 000.
- 25 5. The method as claimed in any one of claims 1 to 4, characterized in that the nucleus treated is contained in the donor cell, and in that said treatment comprises permeabilization of the cytoplasmic membrane of said
30 cell.
6. The method as claimed in claim 5, characterized in that the permeabilization of the cytoplasmic membrane is carried out with at least one permeabilizing agent
35 chosen from lysolecithin, streptolysin, saponin and digitonin.
7. The method as claimed in any one of claims 1 to 4, characterized in that the nucleus is transferred into

the recipient cytoplasm by microinjection.

8. The method as claimed in either of claims 5 and 6,
characterized in that the nucleus is transferred into
5 the recipient cytoplasm by fusion of the donor cell and
of the recipient cytoplasm.

9. The method as claimed in claim 8, characterized in
that the fusion is carried out by electric shock.

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10. The method as claimed in any one of claims 1 to 9,
characterized in that the recipient cytoplasm is in the
interphase state.

15 11. The method as claimed in any one of claims 1 to
10, characterized in that said mammal is an ungulate.

12. The method as claimed in claim 11, characterized
in that said ungulate is chosen from Bovini, the ovine
20 race, members of the goat family and pigs.